

RADIOCARBON DATES FROM THE SUNDE SITE (N38/24), MOTUTAPU ISLAND, NEW ZEALAND

JANET M. DAVIDSON
AUCKLAND INSTITUTE AND MUSEUM

Two radiocarbon dates have been received for the Sunde site, N38/24, on Motutapu Island. Excavations at this site were described by Scott (1970). More recently, I have discussed its position in the prehistoric sequence on the island (Davidson 1972).

The two charcoal samples that have been dated were collected during Scott's excavations in 1963, and submitted to the N.Z. Institute of Nuclear Sciences by R. C. Green in 1973.

The results are as follows.

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| NZ 1898 charcoal from oven beneath Rangitoto ash | |
| $\delta^{13}\text{C}$ w.r.t. PDB | - 24.5‰ |
| percentage modern w.r.t. 0.95 NBS Ox.Ac.Std. | $92.6 \pm 0.6\%$ |
| ^{14}C age w.r.t. 0.95 NBS Ox.Ac.Std. | 610 ± 60 years B.P. |
| ^{14}C age calculated according to new half-life and corrected for secular effect | 640 ± 60 years B.P. |
| | |
| NZ 1899 charcoal from level 4, square A-1 | |
| $\delta^{13}\text{C}$ w.r.t. PDB | - 25.2‰ |
| percentage modern w.r.t. 0.95 NBS Ox.Ac.Std. | $92.3 \pm 0.9\%$ |
| ^{14}C age w.r.t. 0.95 NBS Ox.Ac.Std. | 620 ± 70 years B.P. |
| ^{14}C age calculated according to new half-life and corrected for secular effect | 630 ± 70 years B.P. |

One sample is from beneath the Rangitoto ash and the other is from the first occupation above the ash. They therefore provide further evidence on the age of the ash shower, and an indication of the time which may have elapsed before the reoccupation of the site after the eruption.

Sample NZ 1898 is the first from a cultural context beneath the ash. Previous dates on samples from beneath the ash have been on what appeared to be natural plant remains, or in one case, shell from beach sand. The result falls within the range of previous results for samples from beneath the ash and makes a fourteenth century age for the eruption more likely. The assessment of radiocarbon dates for Rangitoto eruptions is the subject of a paper by Law (n.d.). Here it is sufficient to note that this most recently obtained result supports a probably slightly younger age for the ash shower than that originally suggested by Brothers and Golson (1959), and confirms that the occupation ceased probably just before, or at the onset of the eruption, as the nature of the remains preserved beneath the ash suggested.

It is now evident that the occupation beneath the ash on Motutapu is not particularly early, in the wider context of New Zealand prehistory. Radiocarbon dates of comparable or earlier age are now becoming available for agricultural sites on the

Auckland mainland (Sullivan pers. comm.). It is unlikely that the Sunde site represents a Settlement Phase occupation for the greater Auckland area, although it may represent the initial occupation of this part of Motutapu. The layer should probably be reassigned to the Archaic Phase.

Sample NZ 1899 is slightly more difficult to interpret. Its age is not significantly different from the date beneath the ash. The date can probably be taken to indicate that people returned to the Sunde site very shortly after the eruption. It is unlikely that the charcoal represents redeposited material from the occupation beneath the ash, for the ash layer at the site is thick, and there is no evidence of it being penetrated by postholes or other features. On the other hand, it is possible that the people who occupied the site after the eruption found and burned wood of comparable age to that used in the oven before the eruption. However, in view of the cultural continuity between the pre- and post-eruption layers (Davidson 1972) and convincing evidence for resettlement of lava fields within decades by Polynesians in Samoa and Hawaii, a rapid return to the Sunde site after the eruption seems likely.

In summary then, these two dates suggest that a brief period of time elapsed between the abandonment of the site before or at the time of the eruption, and its recolonisation after the eruption. It is probable that these events took place during the fourteenth century A.D.

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